

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TOBIN J. MARKS, XINMIN YANG
and STANLEY B. MIRVISS

Appeal No. 95-3845
Application 08/132,736¹

ON BRIEF

Before KIMLIN, GARRIS and OWENS, *Administrative Patent Judges*.
OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the examiner's refusal to allow

¹ Application for patent filed October 6, 1993.
According to appellants, the application is a continuation of
Application 07/969,920, filed November 2, 1992, now U.S.
Patent No. 5,391,793, issued February 21, 1995.

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claims 1-5 as amended after final rejection. These are all of the claims remaining in the application. Claim 1, which is the only independent claim, is illustrative and reads as follows:

1. A Ziegler-Natta or Kaminsky catalyst system for the polymerization of olefins which comprises, as a cocatalyst, a composition of matter which predominantly comprises aryloxyaluminoxane containing at least one electron withdrawing group.

THE REFERENCE

Tsutsui et al. (Tsutsui)	5,120,696	June 9,
1992		

THE REJECTION

Claims 1-5 stand rejected under 35 U.S.C. § 103 as being unpatentable over Tsutsui.

OPINION

We have carefully considered all of the arguments advanced by appellants and the examiner and agree with appellants that the aforementioned rejection is not well founded. Accordingly, this rejection will be reversed.

Tsutsui discloses an olefin polymerization catalyst comprising a solid titanium catalyst component containing titanium, magnesium and halogen as its essential components, which supports 1) a transition metal compound containing a ligand having a cycloalkadienyl skeleton and, if necessary, 2) an organoaluminum oxy-compound (col. 3, lines 1-8). The organoaluminum oxy-compound may be a known aluminoxane or a benzene-insoluble organoaluminum oxy-compound which the patentees state that they discovered (col. 8, lines 27-31). The disclosed known aluminoxanes include dialkylaluminum aryloxides (col. 8, line 55 - col. 9, line 3). The benzene-insoluble organoaluminum oxy-compounds, the disclosure of which is relied upon by the examiner in his rejection (answer, page 3), include compounds having units which have an aryloxy group with 6 to 20 carbon atoms (col. 10, line 51 - col. 11, line 2). The units having an aryloxy group can be the predominant component of the organoaluminum oxy-compound (col. 11, lines 2-11). Tsutsui does not disclose that the aryloxy group can be substituted, let alone be substituted with an electron withdrawing group.

The examiner argues (answer, pages 4-5) that

it would have been obvious to one having ordinary skill in the art at the time the invention was made to have used aryloxy groups with substitutents such as halogens or alkyl groups in the catalyst system of Tsutsui et al. because such substituted aryloxy groups fit the general teaching. Any C6 to C20 aryloxy group (substituted or unsubstituted) would be expected to function equivalently because of their similar structures.

Appellants' specification (page 2, lines 25-26) states that alkyl groups are electron donating groups rather than electron withdrawing groups, and the examiner has provided no evidence to the contrary. Thus, the record indicates that even if the aryloxy groups disclosed by Tsutsui were substituted with alkyl groups as argued by the examiner (answer, page 5), appellants' claimed invention would not be produced.

As for the examiner's statement that substituted and unsubstituted aryloxy groups would be expected to function similarly because of their similar structures, a predecessor of our reviewing court has stated that "[w]hen the PTO seeks to rely upon a chemical theory, in establishing a prima facie case of obviousness, it must provide evidentiary support for the existence and meaning of that theory. [citation omitted] The known structural relationship between adjacent homologs,

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for example, supplies a chemical theory upon which a prima facie case of obviousness of a compound may rest." *In re Grose*, 592 F.2d 1161, 1167-68, 201 USPQ 57, 63 (CCPA 1979). The examiner has set forth no evidentiary support for his theory that Tsutsui's unsubstituted aryloxy groups are structurally similar to aryloxy groups which are substituted with at least one electron withdrawing group and, therefore, would have been expected to function similarly, and we are aware of none.

Accordingly, we conclude that the examiner has not carried his burden of establishing a *prima facie* case of obviousness of appellants' claimed invention.

DECISION

The rejection of claims 1-5 under 35 U.S.C. § 103 over Tsutsui is reversed.

REVERSED

EDWARD C. KIMLIN)
Administrative Patent Judge)
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BRADLEY R. GARRIS)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
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TERRY J. OWENS))
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